ABSTRACT of paper to be presented at American Association of Immunologists/ Clinical Immunology Society meeting in Denver, Colorado, May 24, 1993:

CIGARETTE SMOKE EXTRACT INHIBITS LYMPHOCYTE PROLIFERATION AND NATURAL KILLER CELL ACTIVITY. R.L. Noble and S. Campbell. Muncie Center for Medical Education and Department of Biology, Ball State University, Muncie, IN 47306.

Cigarette smoking is associated with increased frequency of cancer and respiratory infections. Because of the implication that smoking may have a deleterious effect on immune capability, a study has been undertaken to investigate the effect of cigarette smoke on lymphocyte function. Mouse spleen cells (SC) were treated with various dilutions of a cigarette smoke extract (CSE) and were washed and tested for Concanavalin-A (Con-A)-stimulated proliferation and interleukin-2 (IL-2) secretion, and for natural cytotoxicity. Proliferation of CSE-treated SC was inhibited, when compared with sham-treated controls, in a dose-dependent manner. However, no inhibition of IL-2 secretion was detected. The killing of Yac-1 tumor cell targets by SC from mice sensitized to murine cytomegalovirus was also inhibited in a dose-related fashion. These results suggest reduced local immune capability as a basis for increased susceptibility of smokers to lung cancer and respiratory infections.

Source: https://www.industrydocuments.ucsf.edu/docs/ggjc0000